Which Tree Is This?

A Key To The Common Cone-Bearing Trees Of Northern Arizona

United States Department of Agriculture

PREPARED BY Forest Service

Southwestern Region

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A Key To The Common Cone-Bearing Trees of Northern Arizona

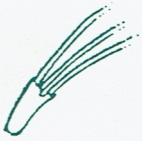
1

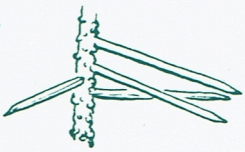
If the tree has **needles . . .** go to 2.

If the tree has **scalelike leaves . . .** go to 8.

If the tree has **leaves** instead of needles (for a few of the most common broad-leafed trees) . . . go to 9.

2

If the needles are in **bundles . . .**  go to 3.

If needles are not bundled, but are **single . . .**  go to 5.

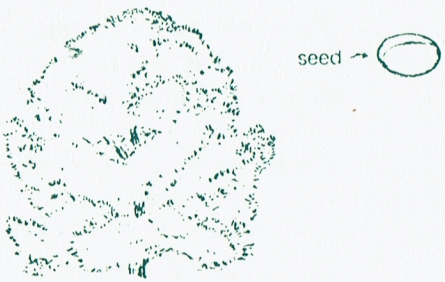
3

If needles are in bundles of **2 or 3** . . . go to 4.

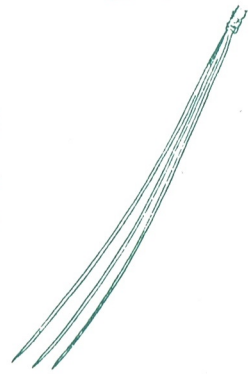
If needles are in bundles of **5**, it is a **limber pine** ***(Pinus flexilis)***. These pines grow in elevations above 7,000 feet and have slender cones 8 to 10 inches long.

4

If needles (1 to 2 inches long) are mostly in bundles of **2**, it is a **pinyon pine** ***(Pinus edulis)***. This slow growing tree can reach 50 feet in height. Trees 6 to 10 inches in diameter may be 100 to 150 years old. This tree's chunky cones produce tasty, nutritious nuts which are a traditional food source in the Southwest for wildlife and people. They can be eaten raw or roasted in a variety of recipes. The pinyon pine also produces pitchy, fragrant firewood.



If needles are mostly in bundles of **3**, it is a **ponderosa pine** ***(Pinus ponderosa)***. This is the most common tree in northern Arizona. It has yellow-green needles 5 to 11 inches long and cones 3 to 5 inches long. The bark is thick and dark brown at first, but becomes yellowish-brown with age. The ponderosa pine is found throughout the western states from the Rocky Mountains to the Pacific Coast. In Arizona, it is found in elevations ranging from 5,500 to 8,500 feet. Sniff the bark. Does it smell sweet, like vanilla or butterscotch?



5

If needles are **directly attached to stems . . .**

go to 6.

If needles are flat and **attached to the main stems by a smaller stem,** called a petiole, it is a **Douglas-fir** ***(Pseudotsuga menziesii)***. This tree is not a pine or a fir. Its name means "false hemlock." It is found in northern Arizona elevations from 6,500 to 10,000 feet and as low as 5,000 feet in canyons. Notice how the scales peek out of the cones like mouse tails or pitchforks.

6

If needles are **flat** and arranged in flat sprays with yellow-green cones (3 inches to 5 inches long) that stand upright on the upper branches, it is a **white fir** ***(Abies concolor)***. White fir is often found on hillsides with ponderosa pine and Douglas-fir, and in canyons with blue spruce.

If needles are **four-sided**, stiff and sharp . . . go to 7.

7

If twigs are **hairy and needles are flexible and not very sharp,** it is an **Engelmann spruce** ***(Picea engelmannii)***. This is one of the highest elevation spruces in the Southwest whose growth is often stunted at the timberline. It grows in ecosystems with long periods of time between fires.

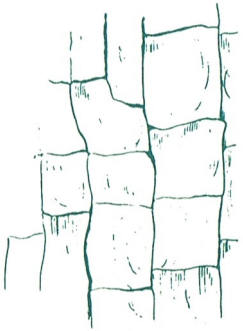
If twigs are **not hairy and needles are rigid and sharp,** it is a **blue spruce *(Picea pungens)*.** This spruce grows in moist areas such as drainages and has cones 2.5 to 4 inches long. The blue spruce is a popular Christmas tree.

8

Junipers are often confused with cedars. Both are in the cypress family and are very aromatic trees with scalelike leaves and scaly twigs. Junipers have distinctive berrylike cones. Several species of junipers are found in northern Arizona:

one seed juniper *(J. monosperma)*
Utah juniper *(J. osteosperma)*
Rocky Mountain juniper *(J. scopulorum)*
alligator juniper *(J. deppeana)*

Is the bark divided into rectangular plates like an alligator's hide? The other species are more difficult to distinguish.



If leaves are **"lobed"** like this, it is a **Gambel oak *(Quercus gambellii)*.** This oak varies from 6 to 50 feet in height but is most often seen as a shrub. Its leaves, which often have hairs on the underside, turn orange and red in the fall. It produces acorns .5 to .75 inches long.

If leaves are **heart shaped** like this, it is a **quaking aspen *(Populus tremuloides)*.** This tree's white trunk resembles that of a birch found in eastern states, but the aspen is in the willow family. Aspen leaves turn stunning shades of yellow, gold and orange in the fall; the flat leaf stem causes the leaf to tremble. The suppression of fire in Southwestern forests has resulted in dense groups of trees which block the sunlight necessary for aspen to reproduce. Thus, fire suppression has resulted in a reduction in aspen stands throughout the West. Forest managers are working to rejuvenate aspen by reintroducing fire to forest systems.

While northern Arizona forests are primarily made up of cone-bearing trees, several **other broad-leafed trees** can be found here including: Arizona walnut, New Mexico locust, Arizona sycamore, hackberry, tamarisk, elm, several kinds of willows, ashes, cottonwoods and cherries.

Illustrations by Jeanne Janish from "Shrubs and Trees of the Southwest Uplands."
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